Conference on

ARTIFICIAL INTELLIGENCE

2nd Annual Academic Conference

March 22 - 24, 2023
Mohali, India

Technical Sponsor:
IEEE
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ABOUT
CONF AI

Data-driven approaches have become a paradigm of choice for experimental modeling, understanding and discovery. Prompted in part by significant advances in algorithmics sensing capabilities, and algorithms (such as statistical modelling, deep neural networks, machine learning) and in part by as well by increased computational capabilities and digitization, AI has proliferated almost all aspects of human endeavors and continues to proliferate in diverse application areas.

This three-day academic conference aims to highlight the potential of AI and Data Science in finding effective solutions to societal challenges. Presentations at ConfAI will look at fundamental contributions in the areas of AI and Data Science. We will focus on theory of AI (algorithms, representation learning, data modelling, inference methods, privacy), AI applications (natural language processing, computer vision, robotics), AI for social good (digital agriculture, digital healthcare, AI for water security), and techno-philosophy (Ethics of AI) among others.

For more information
www.conf-ai.com
confai@plaksha.edu.in

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FLASH TALK BY AI GEN NEXT
Presentation of contributed papers, posters & demos

ConfAI 2023 will include peer-reviewed contributed papers, poster and demos of early ideas, late-breaking results, and open research questions.

Apart from novel contributions, ConfAI 2023 offers PhD scholars and researchers an opportunity to present papers which have been presented at a top-tier conference venue or accepted in a top-tier journal in the year 2022.

Presentations at ConfAI 2023 will also look at fundamental contributions in AI and Data Science. We extend a call for papers in the theory of AI (such as algorithms, representation learning, data models, various inference methods, privacy, and related domains), AI applications (such as natural language processing, computer vision, robotics, agriculture, healthcare, AI for social good), and techno-philosophy (Ethics of AI) among others.

For more details, refer to www.conf-ai.com/call-for-papers

SNIPPETS OF CONFAI 2022

09:00 - 09:30
WELCOME BEVERAGE

09:30 - 09:45	Welcome by General Co-chairs and VC
09:45 - 10:30	Keynote by Dr. Rajeev Rastogi, Amazon
	Modeling best practices based on e-commerce applications at Amazon
10:30 - 11:00	Invited Talk by Dr. Sumohana Channappayya, IIT Hyderabad
	completely blind quality assessment of user-generated video content

11:00 - 11:15
BREAK

11:15 - 12:00	Keynote by Dr. Vivek Raghavan, IndiaStack
	Title to be updated
12:00 - 12:45	Keynote by Dr. Anurag Agrawal, Ashoka

13:00 - 14:00
LUNCH

14:00 - 14:45	Keynote by Dr. Rohini Srivathsa, Microsoft
	Title to be updated
14:45 - 15:45	Panel Discussion on "Diversity & Inclusion in AI"

15:45 - 16:00
BREAK

16:00 - 17:00	Contributed paper presentations
17:00 - 19:00	Networking over Plaksha Social & poster presentations

09:00 - 09:30
WELCOME BEVERAGE

09:30 - 10:15	Keynote by Dr. Vasudeva Varma, IIIT Hyderabad
	Generating encyclopaedic content in Indian languages
10:15 - 10:45	Invited Talk by Dr. Ekta Kapoor, DST
	Title to be updated

10:45 - 11:00
BREAK

11:00 - 11:45	Keynote by Dr. Rohini K. Srihari, The State University of New York, Buffalo
	Conversational AI - Research Challenges and Opportunities for Societal Impact
11:45 - 12:15	Invited Talk by Dr. Siddharth Barman, IISc
	Collective Welfare as a Metric in Algorithmic Decision Making
12:15 - 13:00	Contributed paper presentations

13:00 - 14:00
LUNCH

14:00 - 14:30	Invited Talk by Dr. Parag Singla, IIT Delhi
	Title to be updated
14:30 - 15:00	Invited Talk by Dr. Abhinav Dhall, IIT Ropar
	Emotion Aware AI
15:00 - 15:45	Contributed paper presentations

15:45 - 16:00
BREAK

16:00 - 16:30	Invited Talk by Dr. Shivkumar Kalyanaraman, Microsoft
	The Software- and AI-Driven Future of Renewables
16:30 - 17:30	Panel Discussion on 'AI /ML for clean energy'
19:30 - 22:00	ConfAI Gala Dinner

09:00 - 09:15
WELCOME BEVERAGE

09:15 - 10:00	Keynote by Dr. Partha Talukdar, Google Research
	Inclusive Language Technologies for All
10:00 - 10:30	Invited Talk by Dr. Saket Anand, IIIT Delhi
	Title to be updated
10:30 - 11:00	Invited Talk by Dr. Rohan Paul, IIT Delhi
	Towards human-like reasoning for embodied ai agents
11:00 - 12:00	Special Event on FinTech
12:00 - 13:00	Contributed Entrepreneurial Demos and Poster Presentation

11:00 - 14:00	AI in Practice: Exhibition of entrepreneurial ventures

13:00 - 14:00
LUNCH

END OF CONFERENCE

KEYNOTE SPEAKERS

Dr. Vasudeva Varma
Head, Language Technologies Research Centre
Head, Information Retrieval and Extraction Lab
Professor, IIIT Hyderabad
Profile: https://irel.iiit.ac.in/vasu/index.html

Title: Generating encyclopaedic content in Indian languages: Challenges and Opportunities
Wikipedia is one of the most important sources for learning and knowledge acquisition, known as "Sum of All Human Knowledge". Every human should have access to this knowledge, irrespective of their language. Unfortunately, availability of Wikipedia content in regional languages - especially Indian languages - is very low. Most major Indian languages only have about 1-2% coverage compared to English Wikipedia content.

To address this challenge we developed a multi-pronged approach that leverages various methods such as Data2Text, Fact2Text, Knowledge2Text and state-of-the art language generation technologies to create factual encyclopaedic content with high quality assurance through human in the loop processes.
In this talk I will discuss our experiences while developing these solutions and share details on some research challenges faced during development process along with few potential solutions that could be used by others.

Dr. Rohini K. Srihari
Professor and Associate Chair
Department of Computer Science and Engineering
University at Buffalo,
The State University of New York
Profile: www.acsu.buffalo.edu/~rohini/

Title: Conversational AI - Research Challenges and Opportunities for Societal Impact

There has been much discussion and anxiety over the recent release of ChatGPT, a tool that uses foundational models for generating text in response to complex prompts. Educators in particular are alarmed over its use by students that represent academic dishonesty; many are referring to these as cheatbots. Ironically, despite the word "chat", they are not really very good when it comes to participating in extended and engaging conversation with humans. This talk begins with a discussion of the capabilities and limitations of synthetic text generation models. The focus is on research advances that are necessary in order to use chatbots for "purposeful" conversations. This includes assisting those with physical limitations and mental anxiety as well as the more ambitious goal of persuading people to alter their behaviour or beliefs. Enabling such applications requires fundamental advances in natural language understanding and generation, including computational models for persuasion, avoidance of hallucinations, and the generation of empathetic, socially responsible utterances. Recent progress related to combating disinformation and hate speech in social media will be discussed. If the research challenges can be addressed, chatbots, or socialbots represent a scalable solution to many societal problems.

Dr. Partha Talukdar
Staff Research Scientist, Google Research,
Bangalore
Associate Professor, Department of Computational
& Data Science, IISc Bangalore
Profile: www.linkedin.com/in/parthapratimtalukdar/

Dr. Rohini Srivathsa
National Technology Officer
Microsoft India
Profile: www.linkedin.com/in/rohinisrivathsa

Dr. Rajeev Rastogi
Vice President, Machine Learning
Amazon
Profile: www.linkedin.com/in/rajeev-rastogi

Title: Modeling Best Practices based on e-
commerce applications at Amazon

INVITED SPEAKERS

Dr. Siddharth Barman
Associate Professor and Ramanujan Fellow
Department of Computer Science and Automation
Indian Institute of Science, Bangalore
Profile: www.csa.iisc.ac.in/~barman/

Title: Collective Welfare as a Metric in Algorithmic Decision Making
Abstract: Regret minimization is a pre-eminent objective in the study of decision making under uncertainty. Indeed, regret is a central notion in multi-armed bandits, reinforcement learning, game theory, decision theory, and causal inference. In this talk, I will present our recent work that extends the formulation of regret with a welfarist perspective.

Dr. Abhinav Dhall
Head, Centre for Applied Research in Data Sciences, IIT Ropar
Profile: https://sites.google.com/site/dhallabhinav/

Title: Emotion Aware AI
Prof. Marvin Minsky, AI pioneer said "The question is not whether intelligent machines can have any emotions, but whether machines can be intelligent without any emotions". To this end the field of affective computing has witnessed progress in automatic user affect sensing and affect synthesis for an empathetic Human Machine Interaction. In my talk I will discuss different aspects of affect sensing and synthesis and share examples from my and other research labs.

Dr. Sumohana S. Channappayya
Professor, Department of Electrical Engineering
IIT, Hyderabad
Profile: https://people.iith.ac.in/sumohana/

Title: Completely Blind Quality Assessment of User-Generated Video Content

This talk presents our work on addressing the challenging problem of completely blind video quality assessment (BVQA) of user-generated content (UGC). The challenge is twofold since the quality prediction model is oblivious to human opinion scores, and there are no well-defined distortion models for UGC content. Our solution is inspired by a recent computational neuroscience model which hypothesizes that the human visual system (HVS) transforms a natural video input to follow a straighter temporal trajectory in the perceptual domain. A bandpass filter-based computational model of the lateral geniculate nucleus (LGN) and V1 regions of the HVS was used to validate the perceptual straightening hypothesis. We hypothesize that distortions in natural videos lead to a loss in straightness (or increased curvature) in their transformed representations in the HVS. We provide extensive empirical evidence to validate our hypothesis. We quantify the loss in straightness as a measure of temporal quality and show that this measure delivers acceptable quality prediction performance on its own. Further, the temporal quality measure is combined with a state-of-the-art blind spatial (image) quality metric to design a blind video quality predictor that we call Straightness Evaluation Metric (STEM). STEM is shown to deliver state-of-the-art performance over the class of BVQA algorithms on five UGC VQA datasets including KoNViD-1K, LIVE-Qualcomm, LIVE-VQC, CVD and YouTube-UGC. Importantly, our solution is completely blind i.e., training-free generalizes very well, is explainable, has few tunable parameters, and is simple and easy to implement.

Dr. Rohan Paul
Assistant Professor & Pankaj Gupta Faculty Fellow,
Department of Computer Science and
Engineering, IIT Delhi
Profile: www.cse.iitd.ac.in/~rohanpaul/

Title: Towards Human-like Reasoning for Embodied AI Agents

We are entering into an era where AI-based computing will pervade machines that we operate and interact with. This will usher in a future where humans will be working with intelligent embodied agents or robots in a variety of domains such as manufacturing, security, homes etc. In order to work alongside humans, robots must possess "human-like" abilities to understand, reason and act intelligently in the world. This talk discuss learning based models of intelligence that enable embodied agents to understand high-level tasks, reason and synthesise plans and resolve potential ambiguity with active exploration. The talk will present recent results, experiments and research challenges.

Dr. Parag Singla
Associate Professor, Department of Computer
Science & Engineering
Indian Institute of Technology Delhi
Profile: www.cse.iitd.ac.in/~parags/

Dr. Shivkumar Kalyanaraman
CTO, Energy & Mobility, Microsoft R&D India
Profile: www.shivkumar.org/

Title: The Software- and AI-Driven Future of Renewables
Deep decarbonization and the rapid electrification of energy will require greater penetration of renewables. As renewables penetration crosses 10-20% of the grid electricity demand (and other supply sources correspondingly adjust), the intermittency and volatility of renewable supply will increasingly dominate. Renewable supply and grid electricity demand matched via a combination of multiple markets, energy storage and an orchestrated portfolio of diverse flexibility resources. The future of renewables will fundamentally be driven by software and AI on the cloud to manage this transition. Accelerating this transition involves capturing AI patterns (eg: 24/7 matching, Forecasting, Decisions under Uncertainty) to enable rapid solution development and evolution. Finally, the logical end point of these software / Cloud & AI capabilities is the concept of "virtual battery" where the cloud itself becomes an ultimate flexibility asset for the clean energy ecosystem. This talk will unwrap the various challenges and opportunities around this transition.

Dr. Vivek Raghavan
Chief Project Manager & Biometric Architect,
Unique Identification Authority of India
Chief AI Evangelist, EkStep Foundation
Profile: www.linkedin.com/in/vivek-raghavan

More invited speakers and related abstracts shall be updated in due course

ABOUT ORGANIZERS

PLAKSHA UNIVERSITY

Situated at the foothills of the Himalayas in Chandigarh tricity, India, Plaksha University is a collective philanthropic initiative by a global community of 100+ reputed entrepreneurs, business leaders and academicians to reimagine technology education and research.

A greenfield university, Plaksha is developing a transformational model of engineering education and research that integrates technology, design, entrepreneurship, and liberal arts. Plaksha's mission is guided by an eminent Academic Advisory Board of distinguished leaders at top institutions and is anchored around three pillars:

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Focused on interdisciplinary technology curriculum, integrating liberal arts and design with experiential learning

Enabling industry innovation & start-ups
Instilling entrepreneurial mindset, mentoring start-ups and creating an innovation ecosystem

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Thematic research centers with industry and government collaboration, solving grand challenges in India and the world

For more information visit on www.plaksha.edu.in

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